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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,086	01/28/2000	ULRICH BLEY	306.37599X00	6327

7590 07/20/2004

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ARLINGTON, VA 22209

EXAMINER
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LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
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DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 5-28-04 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892.        | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.             | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 11-25 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 11-25 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

**EXAMINER'S ACTION**

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13, 15-18, 20-23 and 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over DE 19505568 (Redecker et al.). No distinction is seen between the process disclosed by Redecker et al., and that recited in claims 11-13, 15-18, 20-23 and 25. Redecker et al. is relied upon as discussed in the Office action mailed May 28, 2003. Applicant's argument, that the sulfur, boron, silicon of ferrocene and its derivatives are only one set

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of compounds for the combustion modifiers, the other being moderators that interfere in the reaction in the form of a heterogeneous catalysis, is not convincing. The fact that Redecker et al. disclose moderators that interfere in the reaction in the form of a heterogeneous catalysis does not render nugatory the fact that Redecker et al. also disclose moderators that interfere in the reaction in the form of a homogeneous catalysis, i.e., sulfur and ferrocene and its derivatives. Applicant's argument, that the present inventors have found that some of the compounds employed in the gas producing mixture described by Redecker et al. as combustion modifiers can be used in a specific manner for reducing nitrogen oxides, is not convincing, since applicant's claims do not recite any specific manner that is used by these compounds for reducing nitrogen oxides. Applicant's argument, that in Redecker et al. there is a clear teaching to use compounds other than metallocenes, metallocene derivatives, sulfur and sulfur compounds to reduce nitrogen oxides, is not convincing, since applicant has not explained why the sulfur or ferrocene or its derivatives, present in the composition of Redecker et al. as a combustion moderator, would not inherently convert nitrogen oxides in the gas mixture to non-toxic compounds in a homogeneous gas phase reaction by reaction with the sulfur or ferrocene or its derivatives,

especially in view of the last paragraph on page 6 of the English translation of Redecker et al., which specifically states that sulfur and ferrocene and its derivatives interfere in the reaction in the form of a homogeneous catalysis. Applicant's argument, that Redecker et al. clearly do not suggest a method for reducing nitrogen oxides in which the nitrogen oxides reducing substance "consists essentially of" or "consists of" at least one compound selected from the group consisting of metallocenes, s metallocene derivatives, sulfur and sulfur compounds, and that, on the contrary, Redecker et al. clearly suggest the use of other nitrogen oxide reducing substances, is not convincing. Redecker et al. teach in the paragraph bridging pages 7 and 8 of the English translation that the additives may be incorporated in the outflow channels of the generator. When the additives are employed in the outflow channels of the generator in the form of tablets, pills or granulates, the additives would not be vaporized, and the nitrogen oxides reducing substance which would then be vaporized in the process of Redecker et al. would "consist of" or "consist essentially of" the sulfur or ferrocene and its derivatives.

Claims 14, 19 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Redecker et al., for the reasons given in the Office action mailed May 28, 2003.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (571) 272-1353. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (571) 272-1358. The fax phone number for this Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WAL:cdc

July 15, 2004

*Wayne A. Langel*  
WAYNE A. LANGEL  
PRIMARY EXAMINER